America’s Energy Crossroads: The AI Revolution, Demand, and the Role of Coal

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As the AI revolution accelerates, America stands at a pivotal energy crossroads: the choices we make today will determine whether this next great leap forward is powered by reliability, affordability and energy abundance, or derailed by short-sighted policy and a grid that simply can’t keep up.

This month, with Wall Street buzzing about AI and data center construction setting records, there is no doubt that we’ve entered a new era of power demand. The question is: are we prepared to meet it?

The numbers suggest we are not.

ICF International now projects that U.S. electricity demand will surge by as much as 25% by 2030 — a sharp reversal of two decades of stagnation. This uptick is largely driven by artificial intelligence, electrification, onshoring of manufacturing and a rebounding industrial sector. Data centers alone are expected to consume nearly 10% of U.S. electricity by 2030, with AI workloads exponentially increasing the computing and energy requirements of these facilities.

The strain is already showing. Grid operators from PJM to Midcontinent Independent System Operator (MISO) to the Electric Reliability Council of Texas (ERCOT) are warning of looming capacity shortfalls. PJM Interconnection forecasts a potential 40 GW deficit by 2030 if current trends persist. In MISO, summer reserve margins are narrowing to dangerous levels. ERCOT, Texas's primary grid, has added record renewables and is still teetering on the edge of outages during high demand.

The Vanishing Backbone of Grid Reliability

What's driving this fragility? In part, it's the retirement of dispatchable, fuel-secure resources — chief among them, the coal fleet.

The White House's 2023 National Transmission Needs Study acknowledges a growing tension in the U.S. power sector: electricity demand is rising due to electrification and economic growth, while the availability of firm, dispatchable generation, such as coal and natural gas, is declining. The study highlights that this shift, combined with the rapid addition of intermittent renewable resources, is creating reliability and resilience challenges. Although the study does not directly criticize federal policy, it notes that retirements of dispatchable resources are outpacing the development of firm replacements, raising concerns about grid adequacy.

This is not a debate about nostalgia, status quo or ideology. It is about math, physics, and operational reality.

Coal plants can store months of fuel on-site. They don't depend on just-in-time gas supply chains or intermittent weather conditions. At a time when the nation is racing to electrify everything from cars to factories to server farms, keeping the coal fleet online is not optional. It's imperative.

There are precious few places to turn for dispatchable capacity. New nuclear power is years away. Hydro is geographically limited. Battery storage cannot yet meet multi-day needs at grid scale. Gas plants are under permitting and supply pressure. But coal capacity already exists. It's built, integrated, and proven. Allowing it to disappear under the weight of one-size-fits-all regulation is a mistake we cannot afford.

Realigning Policy with Reality

We're not calling for the clock to turn back. We are calling for a reset, an honest alignment of energy and regulatory policy with the reality of rising demand. That means:

- A pause on closures of well operating power plants until replacement generating capacity is built and operational.
- A prioritization of reliability in energy policy and a recognition of the strategic value of fuel-secure baseload power.

Embracing an “all-of-the-above” energy strategy that leverages coal’s strengths alongside other technologies.

Meeting the AI Moment

The energy reality of the AI moment isn’t five years away. It’s here now. It’s time our energy policy reflected that truth.

By stabilizing and valuing our existing coal fleet, we can deliver energy abundance and resilience in tandem. Let’s meet this moment with eyes wide open, grounded in data, and driven by common sense.

Let’s keep America powered and mining strong.